Mumbai University

Question Paper

[IDOL – Revised Course]

(May – 2016)

Internet Technologies

Time: 3 Hours **Total Marks:** 100

N.B.: **(1)** *All Question are Compulsory.*
(2) *Make Suitable Assumptions Wherever Necessary And State The Assumptions Made.*
(3) *Answer To The Same Question Must Be Written Together.*
(4) *Number To The Right Indicates Marks.*
(5) *Draw Neat Labeled Diagrams Wherever Necessary.*
(6) *Use of Non – Programmable Calculator is allowed.*

Q.1 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

(A) Explain the algorithm used to form shortest path tree with suitable example. **(5)**
(B) What are the services provided by UDP? **(5)**
(C) How does DHCP Allocate Address dynamically? **(5)**
(D) Explain the format of SNMP PDU Format? **(5)**

Q.2 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A) Describe the functions of the Physical Layer in the OSI Model. **(5)**
(B) State and explain five points of comparison between IPv4 and IPv6. **(5)**
(C) Explain the different kinds of classes along with their Network Mask for IPv4 Address. **(5)**
(D) State and explain Fragmentation Module of IP Package. **(5)**
(E) Explain the Transition Strategies from IPv4 to IPv6. **(5)**
(F) Write a note on Classless Addressing. **(5)**

Q.3 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A) Write a note on Proxy ARP. **(5)**
(B) What is inefficiency in Mobile IP? Give solution for it. **(5)**
(C) Explain Timers in RIP. **(5)**
(D) What are the three phases that a mobile host should go through to communicate with the Remote Host? **(5)**
(E) Explain the Source Quench Message and Time Exceeded Message in ICMPv4. **(5)**
(F) List types of OSPF Packets. Explain Hello Packet in detail. **(5)**

Q.4 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A) Explain Stop-and-Wait Protocol and Go-Back-N Protocol in the Transport Layer. **(5)**
(B) Explain the features of Stream Control Transmission Protocol. **(5)**
(C) Explain Half Close in TCP. **(5)**
(D) Explain Control Block Module of UDP with Algorithm. **(5)**
(E) A TCP Connection is in the ESTABLISHED state. The following events occur one after another: **(5)**
(i) *A FIN Segment is received.*
(ii) *The application sends a "close" Message.*
What is the state of the connection after each event? What is the action after each Event?
(F) Draw and explain state transition diagram of SCTP. **(5)**

Q.5 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A) What are the types of records used in Domain Name System? **(5)**
(B) Explain Recursive and Iterative resolution in DNS. **(5)**
(C) What Data Structures FTP uses to transfer a File Across Data Connection? **(5)**
(D) What are the types of TFTP Messages? What is the purpose of each one? **(5)**
(E) Explain the Packet Format of SSH. **(5)**
(F) How do you establish Connection in TFTP? **(5)**

[TURN OVER]

Q.6 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A) Explain the format of the Response Message of HTTP. **(5)**
(B) What is difference between Persistent and Non-Persistent Connection of TCP? **(5)**
(C) Write a note on POP3. **(5)**
(D) What is the concept of SMI in SNMP? **(5)**
(E) How to access MIB Variables? **(5)**
(F) How do you download a compressed audio/video using web server with metafile? **(5)**

Q.7 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

(A) Write a TCP program to find whether number sent by client is prime or not. **(5)**
(B) Write a UDP Server Code to find Factorial of a number. **(5)**
(C) Explain DatagramPacket Class. **(5)**
(D) Write a note on TCP Programming. **(5)**
(E) Write a TCP Program to find whether string is Palindrome or not. **(5)**
(F) Write a UDP Server Code to find inverse of string. **(5)**